

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 09/967,307

Examiner: El Hadji Malick Sall

Filing Date: September 28, 2001

Group Art Unit: 2157

Inventor: Brian A. Batke

Attorney Docket No. 1506.021

Assignee: Rockwell Technologies, LLC

Invention: Industrial Control System with Autonomous Web Server

REMARKS ACCOMPANYING
PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In an office action dated December 19, 2006, the Examiner has rejected claims 1-22 over the prior art. Specifically, the Examiner has rejected claims 1, 4, 12, 14 and 15 as being obvious over Lindner in view of Papadopoulos. This was the second or subsequent rejection with respect to claims 1, 12 and 14. This case is therefore ripe for appeal.¹ Applicants have filed a Notice of Appeal simultaneously herewith.

The rejections contain clear errors and omissions of one or more essential elements needed for a *prima facie* rejection. As such, applicants hereby request that a pre-appeal brief review be conducted in accordance with the Pre-Appeal Brief Conference Pilot Program that was initiated on July 12, 2005 and extended indefinitely on January 10, 2006.

1. Background

Briefly described, the invention relates to an industrial control system used to control machines in factories. Such industrial control systems normally include a special purpose computer termed a programmable logic controller (PLC) communicating over a proprietary network with input and output modules (I/O modules) connected directly to the machines.

¹ 35 USC §134 and 37 CFR §1.191. See also *ex Parte Lemoine*, 46 USPQ2d 1420, 1423 (BPAI 1998) ("Under our interpretation, so long as the applicant has twice been denied a patent, an appeal may be filed.")

The present invention allows Web based control of the I/O modules during the initial setup and troubleshooting of the industrial control system before the programmable logic controller is fully operational. See generally paragraph [0011]. This allows a greatly simplified configuration process for such control systems, allowing a standard Web browser to be used to test and configure the I/O modules before the control program is complete and the programmable logic controller is operational.

2. Rejection of Independent Claims 1, 12 and 14.

The Examiner fails to make a *prima facie* case for the rejection of independent claims 1, 12 and 14 as being obvious over Lindar in view of Papadopoulos because even in combination, these references fail to teach express elements of these claims.

Each of these claims requires a "Web interface module" allowing the writing of data to the I/O modules directly from the Web "without intervention of the programmable logic controller". The Applicant and the Examiner agreed that Lindar does not teach controlling the output of the I/O modules without intervention of the PLC.

This is also true of Papadopoulos, which describes only the Web server 30 communicating directly with the PLC 32 and provides no suggestion that there can be communication between the Web server 30 and the I/O modules 40 that does not pass through the PLC.

The Examiner has suggested in the most recent office action that Papadopoulos does teach communication between the Web server and the I/O modules without the intervention of the PLC because the Web server and the I/O modules are connected by a backplane. This inherency argument is incorrect as a technical matter. The physical connection of two devices to a backplane doesn't mean that they can communicate with each other independent of the mediation of a separate processor. In the computer on which this request is being drafted, there is a printer port card and a sound card both connected to a single backplane. They do not communicate directly with each other but only with the computer's processor. This is analogous to the situation in Papadopoulos where the Web server and the I/O modules do not communicate directly with each other but, according to Papadopoulos, must communicate through the PLC.

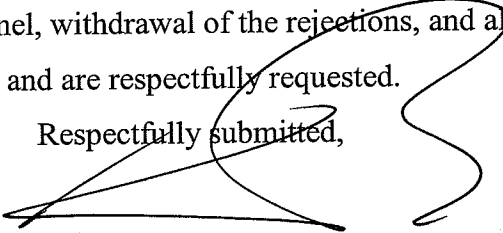
Not only does Papadopoulos fail to recognize the benefits of direct Web control of I/O modules, Papadopoulos fails to teach any solution for the problems of conflict between commands from the PLC and commands from the Web, or any solution for the problems of possibly malicious Web traffic wreaking havoc on controlled equipment or processes.

The present invention both expressly teaches and claims direct communication from the Web to the I/O modules without intervention of the PLC, and also addresses and solves the problems of spurious or malicious Web traffic or conflicting Web and PLC commands by using a PLC controllable but I/O module based lock table (see Fig. 5) giving the PLC oversight on the communication after it is commissioned. No such mechanism or its equivalent is taught or suggested by Papadopoulos or any of the references cited by the Examiner.

CONCLUSION

It is believed that the claims patentably define over the cited references and the Examiner has failed to identify in the prior art essential elements needed for *prima facie* rejections in his Office Action. Reconsideration by the panel, withdrawal of the rejections, and allowance of the application are therefore believed in order and are respectfully requested.

Respectfully submitted,


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